Master's Theses

University of Connecticut Graduate School

5-6-2017

Coverage in Connecticut Newsapapers of the Opioid Epidemic A Content Analysis

Peter Lam
plam@uchc.edu

Recommended Citation

Coverage in Connecticut Newspapers of the Opioid Epidemic
A Content Analysis

Peter Lam

A.B., Washington University in St. Louis, 2011

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Public Health

At the

University of Connecticut

2017

Copyright by

Peter Lam

2017

APPROVAL PAGE

Masters of Public Health Thesis

Coverage in Connecticut Newspapers of the Opioid Epidemic
A Content Analysis

Presented by

Peter Lam, A.B.

Major Advisor_____
Dr. Jane Ungemack

Associate Advisor_____
Dr. Bonnie McRee

Associate Advisor_____
Dr. Marc Croteau

University of Connecticut

2017

Acknowledgements

The credit for completing this thesis is due enlarge to the great faculty and staff that have helped supported me and kept me on track. I would like to extend my sincere thanks to all of them.

 To Dr. Jane Ungemack, I truly appreciate your help and positive encouragement throughout this process. You always showed great concern in my progress and were always available to aid me in pushing forward with my thesis. I thank Dr. Bonnie McCree for extending her hand in helping me get this project started. I also thank Dr. Marc Croteau for being an excellent preceptor and I know that the medical community will greatly miss him when he hangs up his white coat this summer. Also I really appreciate all that Barbara Case has done for me to help ensure that I would be able to graduate on time. I truly enjoyed our discussions about art and your photography.

To my family, thanks to my brother and roommate David for being understanding over the last few weeks as I completed my thesis. I know that you will excel in whatever medical specialty you choose. And lastly I thank my parents for supporting me throughout my medical education. I feel unbelievably blessed to have been raised by two such giving and selfless people.

Table of Contents

Abstract

Background: Opioid abuse and overdose in the United States has steadily risen over the last decades. Drug over-dose related deaths per year now surpass deaths related to motor vehicle accidents.

Objective: This study reports on public opinion in Connecticut regarding the ongoing opioid epidemic to determine the response to problems and solutions on this issue.

Methods: A latent content analysis was used to analyze 83 letters to the editor and editorials that were published during the 2016 calendar year. These articles appeared in five major daily Connecticut newspapers. Data were collected directly through the newspapers' online archives. The articles then were processed systematically to place identified judgments/opinions into an inductive category development model for thematic interpretation.

Results: Eight major themes and 35 subthemes were found to reoccur throughout these articles. The themes covered a wide array of topics with the most common theme being the idea of "Local community and social involvement as a tool of addressing the opioid epidemic." Other themes included the role of medical providers, law enforcement, pharmaceuticals, insurance companies, and the government in regards to the opioid epidemic. The themes are a representation of the overall opinion and thoughts of the Connecticut populace regarding the opioid epidemic.

Introduction

Opiates have had a presence in human society for thousands of years, with the earliest reference to the growth and use of opium in 3400 B.C.[1] Opiate's pharmacologic euphoric and analgesic affects have been well documented with Chinese surgeons using the compound in 220-264 A.D. In 1806 a German chemist isolated morphine, named after the god of dreams Morpheus, from opium.[2] As pharmaceuticals advanced as an industry, so did the techniques to modifying the naturally occurring opiate compounds. In the 1950s, 60s, and 70s, a wide variety of synthetic opiates categorized as opioids were created including fentanyl, oxycodone, methadone, and hydromorphone.[1] During the 1990s, motivated by a return in investments, large pharmaceuticals began aggressively marketing their products to physicians.[3] During this period, practice guidelines encouraged the liberal use of opioids to manage pain. Prescription rates for opioids such as OxyContin and Percocet increased dramatically, despite weak evidence available regarding their effectiveness for managing chronic pain. The combined result of marketing campaigns by pharmaceutical companies and an upward shift in prescribing practices by physicians to manage complaints of pain resulted in growing access and supply of these drugs within communities across the United States. These changes also augmented opportunities for diversion of prescription medications into illicit channels of distribution. One of the consequences has been increasing death rates from drug overdoses across the country with more than 52,000 recorded deaths in 2015 which is an increase from the 47,055 deaths in 2014.[3] These overdose deaths individually exceed the 33,736 deaths from motor vehicle accidents and the 33,599 deaths from firearms in 2014.[4] The number of drug overdose deaths is even greater than the peak year of the HIV/AIDs epidemic that resulted in more than 43,000 deaths in 1995.

Multiple quantitative studies have been conducted over the years that have focused on topics such as overdose deaths, number of prescriptions available to the public, and cost effective means of treatments. However, few qualitative studies have been undertaken to measure public perceptions and attitudes about the epidemic. Due to the widespread impact of the opioid epidemic on communities within Connecticut, this study seeks to describe the public's response and opinions of this current public health crisis. Through a systematic content analysis of Connecticut newspaper editorials and opinions regarding the opioid epidemic, this study aims to demonstrate recurrent themes brought up by the community.

The purpose of this study is to gain a better understanding of the general populace's range of attitudes and views about the ongoing opioid epidemic in Connecticut. Although a national issue, the nature of the opioid epidemic, its causes and consequences may not be broadly or consistently understood by community members. However, even with periodic exposure to the opioid problem it is reasonable to assume that individual members of society will have enough experience to share their thoughts on the matter. It is expected that the public will have a range of opinions regarding root causes and focused solutions.

Background

According to the Centers for Disease Control and Prevention (CDC) in 2015 there were 52,404 deaths in the United States due to drug overdoses of which 33,091 (63.1%) involved an opioid.[5] Connecticut plays a crucial role in this growing problem. Since 2013 the Connecticut overdose death rate has surpassed the national death rate. Recent data show Connecticut as having the 6th highest percentage increase for overdose deaths from 2014-2015 and the 11th highest age-adjusted rate of deaths in 2015.[6] Of the top five states with the highest percentage

increase for drug overdose deaths, three are Connecticut's neighboring states in New England: Massachusetts (2), New Hampshire (4), and Maine (5).[6]

Connecticut has been described as part of the "opioid highway" of New England due in large part to the numerous interstate highways that run through the state.[7] Opioids including heroin are trafficked through New York and Connecticut via interstate highways I-95, I-91, and I-84.[7] It is crucial for Connecticut to address the opioid epidemic as it affects not just its own residents but also residents of numerous other states.

Associated with rising death rates due to overdoses is the increasing economic burden from the opioid crisis. One study estimated that in 2006 the total cost to the United States due to the nonmedical use of prescription opioids was $53.4 billion, including $42 billion (79%) that was attributable to lost in productivity.[8] Connecticut can ill afford productivity losses; data have shown that in 2015 Connecticut had the 8th slowest economic growth of all 50 states.[9] Combined with the statistic that Connecticut also has the 2nd highest debt per capita of all 50 states and the resulting situation for combating the opioid crisis appears even more bleak.[10] Connecticut as a state has a rapidly increasing opioid problem combined with a slowing economy and a rising debt rate all of which will negatively impact the public health of its residents. One such example which illustrates the interaction of all these factors includes the budget cuts in 2016 to the Connecticut Department of Mental Health and Addiction Services (DMHAS). DMHAS acts to provide a safety net to addicts and those in recovery by providing both outpatient and inpatient services. The budget cut of $34 million will help reduce the state debt but will in turn reduce crucial services including detoxification and medication assisted treatment such as methadone and buprenorphine. This is in the setting of DMHAS seeing a recent 150 percent increase in patients seeking these treatment services.[11]

Other information of importance to this study includes where in the state the opioid problem is most acute and whom it impacts. The towns with the most resident deaths in 2015 from drug overdose deaths showed 38 in Waterbury, 37 in Hartford, and 31 in New Britain.[12] These three urban communities also have lower per capita household incomes compared to the rest of the state. In 2014 the state's average per capita income was $39,418. In comparison the 2014 per capita income was $21,251 in Waterbury, $16,813 in Hartford, and $21,070 in New Britain.[13] Another report demonstrated the median rate of death due to drug overdoses in Connecticut in 2015 was 7.2 per 10,000 residents where the median household income was less than $66,000.[14] In comparison, the median rate of death due to drug overdoses in Connecticut was 2.3 per 10,000 residents where the median household income was more than $90,000.[14]

Overall drug induced deaths in 2013 for Connecticut demonstrated that Whites had a 1.77 drug induced death rate per 10,000 residents. In comparison the rate for Blacks and Hispanics was 1.45 and 1.21 respectively.[15] When compared to prior years, this difference in drug induced death rates is growing.

Having discussed the opioid epidemic on a national and state level, the question now turns to what types of opioids are impacting our communities. In 2015, 63.1% of all drug-related deaths nationwide involved an opioid and of those opioid deaths, nearly half involved a prescription opioid.[16] In 2013, health care provides wrote 259 million prescriptions for opioid pain relievers. According to the CDC this was enough for every American adult to have a bottle of pills.[17] This statistics is significant when considering that the first exposure to an opioid in 79% of males and 85% of females was from a legitimate prescription of pain.[18] Examples of prescription opioids include oxycodone (OxyContin), hydrocodone (Vicodin), morphine, and methadone. In comparison, opioids such as heroin are classified as illegal opioids. A 2016

descriptive analysis using the National Vital Statistics System mortality files (NVSS-M) found that in 2010 and 2011 oxycodone was the single drug responsible for the highest number of drug related deaths in the United States.[19] By 2012-2014 heroin had overtaken oxycodone as the single drug with the highest number of drug related deaths. These data support the ongoing narrative that individuals are first introduced to opioids through prescription pain medications. Various studies have reported the rate of abuse of prescribed opioids to be as high as 26% while a study in 2007 demonstrated 56.5% of the nonmedical use of prescription opioids came from a friend or relative.[18] These prescription pain medications are often a gateway drug to other opioids such as heroin.[18]

In order to combat the opioid epidemic, various interventions, including education and policy initiatives, have been proposed. One recent study examined opioid prescribing habits of health providers at the Emergency Department (ED) of a nonteaching hospital located in the Pacific Northwest. This study spanned the course of seven years with the goal of determining the outcome of implementing a formal ED policy on opioid prescription. The outcome of the 7-year study showed that the implementation of a formal ED policy along with provider education was able to decrease opioid prescribing by ED providers by nearly 40%.[16] The results of this study are meaningful as a public health approach to reducing opioid prescribing practices. For instance although 30% of adults in the United States report chronic pain, only 30% of US medical schools report that they provide training and education regarding the prescription of opioids.[20] However the results of the previous ED study suggests that despite this seemingly lack of medical school training, hospital-based doctors can avoid contributing to the opioid epidemic if there are policies in place specifying the conditions for appropriate prescribing of opioids. Nonetheless early clinical training is undoubtedly crucial.

Preventative efforts focus on the use of monitoring tools, assessment of patients, and proper clinical management. One widely implemented monitoring tool used by most states is a Prescription Drug Monitoring Program (PDMP). Connecticut has its own PDMP named the Connecticut Prescription Monitoring and Reporting System (CPMRS) run by the state's Department of Consumer Protection. The functionality of this system is to record where, when, and by whom an individual patient has been prescribed an opioid or other regulated drug. The CPMRS has been used as a tool to determine if a patient is doctor shopping for pain medications or is receiving multiple prescriptions from different doctors that may put the patient's life at risk.

Assessment involves health providers determining if a patient is at risk of developing a substance use disorder. This is one area that has yet to be fully studied as there is currently no protocol universally accepted among medical professionals. However a tool developed by Atluri and Sudarshan in 2004 proposed six clinical criteria that could be obtained during a provider-to-patient interaction that could predict opioid misuse. These criteria included a patient's: 1) focus on opioids, 2) opioid overuse, 3) other substance abuse, 4) low functional status, 5) unclear etiology of pain, 6) exaggeration of pain.[20] A score of 3 or more was predictive of opioid misuse.

In addition to monitor and assessment, there is the issue of managing pain. New tools developed by pharmaceutical companies may help in reducing the abuse of prescription pain medication. The FDA in 2013 approved of a reformulated OxyContin that would be more difficult to crush, break, or dissolve. [20] Other advances include the development of peripherally acting opioids. These opioids do not cross the blood-brain barrier, thereby avoiding the reward circuitry that leads to the misuse of medication while simultaneously maintaining the goal of treating the patient's pain.[20] These advances can certainly aid health care providers in appropriately managing pain. However part of managing pain includes effective communication

with patients. For instance several studies have demonstrated that less than 20 percent of patients were aware of what to do with unused medications, yet 72 percent of patients had leftover medications.[20] This suggests that effective control of the opioid crisis requires a more comprehensive approach that extends beyond modification of pharmacotherapy.

Multiple studies have demonstrated that various factors influence individuals' risk of misusing opioids. For instance research has shown that having health insurance is negatively associated with the nonmedical use of prescription pain drugs.[19] This is understandable as having insurance gives better access to health care providers who then inadvertently provide the source for the opioids. Other factors include the comorbid psychopathology that is often associated with drug abuse. These include psychiatric disorders such as depression, anxiety, social phobia, and antisocial personality. The association between psychopathology and substance use disorder is problematic especially considering the previous mention of budget cuts made to DMHAS.

These topics provide a background to the current opioid epidemic. This included the discussion of opioid related mortality, economic impact, current policies, as well as various studies that have focused on solutions. This study acts to assess the public's opinion on these various issues as well as to determine if there are other topics that are of interest to the public. The public health significance is that this study can be used to judge the Connecticut public's engagement and understanding of this problem as well as support for various initiatives to address the problem. In addition this study may be able to uncover issues that have been previously given less publicity. These findings may inform policy makers as to where to focus their efforts in addressing the opioid epidemic.

Methods

<u>Setting</u>

        This study was conducted with data obtained from five of the six largest daily newspapers in Connecticut. Listed in order of size they are as follows: Hartford Courant (1), New Haven Register (2), Republican-American (3), Connecticut Post (4), The Day (6).[21] These five newspapers were chosen as they serve unique regions of the state with minimal overlap. The Manchester Journal Inquirer (5) was excluded in this study as the region it covers overlaps with that of the Hartford Courant. By choosing these five newspapers and analyzing the editorials the aim of this study was to gain as comprehensive an evaluation of the overall public thought regarding the opioid epidemic.

<u>Data Collection</u>

        After contacting each of the five newspapers directly via phone regarding the best method of obtaining archived editorial print, it was determined that the most efficient method for each was to extract digital copies online as opposed to searching through hardcopies. Each newspaper had slight variance in the organization of its archived information. However, the majority of the data of interest fell into four categories: Editorials, Opinions, Commentary and Letters. To further the search for public opinion and attitudes regarding the opioid epidemic, the following key words were used in the advanced search function of these newspapers: opioids, oxycodone, heroin, narcan, and naloxone. These search terms were chosen as a byproduct of common topics discussed throughout the literature research for this study.

        The time frame was limited to articles that were published in the calendar year 2016. Again there were slight variances in the organization based upon individual newspaper search functions. In some the actual year of publication could be set at 2016; in others archived articles could be reorganized based upon date of publication. In situations of the latter, articles were

chosen for only those published in 2016. The total number of articles obtained via this method was 83. The articles were then downloaded into either .pdf or .doc formats for analysis.

Study Design

Qualitative content analysis was the method chosen for this study. Qualitative content analysis is divided into two concepts: manifest content and latent content. Manifest content and its analysis focuses on what the text says and describes the visible and obvious components which lends itself to a more quantitative approach to qualitative content analysis.[22] In contrast latent content and its analysis focuses on what the text talks about and involves an interpretation of the underlying meaning of the text.[22] Common utilization of manifest content analysis involves the commercial analysis of the frequency of topics in newspapers. For instance a newspaper company can quickly assess the stories it is covering and compare that numerical value to that of its competitors. In contrast latent content analysis has greater utility in assessing topics in health care. For example latent content analysis can be used to study physician patient interactions in clinical settings to learn more about effective communication. Due to this study's purpose of learning about public thought and opinion regarding the opioid epidemic, a latent content analysis approach was chosen.

In proceeding with a latent content analysis, the unit of analysis chosen was each individual editorial/opinion/letter in the newspaper that pertained to the opioid epidemic. Each article was dissected into a *meaning unit*. An essential component of content analysis is the identification of substantive statements or statements that truly say something.[23] Consequently, a simple fact in an article would not constitute a *meaning unit* in the scheme of this study as the focus is on the public opinion regarding the opioid epidemic. In order to determine an opinion driven statement four fulfilled criteria were required: 1) recognizing the opinion; 2) identifying the valence; 3) identifying the holder; 4) recognizing the topic.[24] As a result a *meaning unit* in

this study would sometimes be comprised of a series of sentences that addressed a singular thought. However, although a series of sentences could work together to form a single opinion driven statement, multiple sentences and paragraphs were avoided so as to prevent any possible overlap of ideas.

An example of this process is demonstrated with the following passage taken from the Connecticut Post published on May 6, 2016.

"Doctors are sometimes unfairly blamed for this problem. Most doctors are very careful about prescribing strong pain killers."

As described by Kim and Hovy, 2006, most opinions are of two kinds: 1) beliefs with values such as true, false, possible, unlikely, etc.; and 2) judgments with values such as good, bad, neutral, wise, fool, etc.[24] In this example the opinion (step 1) is clearly that a prior belief is false. The valence of the sentence and the placement of the "blame" is noted (step 2). The holder (step 3) is that of the author and the topic (step 4) is that of "strong pain killers." Therefore these two sentences can be considered a meaning unit in the context of this study.

In order to identify thematic opinions of the public, the inductive category development was chosen as it provides a systematic approach to text analysis using a category system. The steps of inductive category development are displayed in Figure 1.

First the research question (What is public thought regarding the opioid crisis?) was the center driver in creating the thematic categories. From there, articles were read and meaning units were extracted upon fulfilling the characterization of an opinion-driven statement. These meaning units were then condensed and categorized based upon recurrent subthemes. Sub-thematic categories were revised after 25/83 (30.1%) articles had been analyzed. Five random articles from each of the five newspapers were chosen to gain a baseline understanding of the

themes discussed by members of the community. This constituted the formative check of the

subthemes. The remaining articles were then analyzed following the preliminary steps described

above. After all articles had been analyzed, summative check was performed to modify and

clarify the subthemes and themes discovered. The final product of thematic categorization of

public opinion was then interpreted with quantitative analysis of frequencies.

Results

General

Between January 1, 2016 and December 31, 2016 83 articles written by community

members in the five major daily newspapers in Connecticut were identified. These articles were

included within the editorial, opinion, or letters categories of the newspapers. The Connecticut

Post had the highest annual article contribution at 27 while the Republican-American had the

least at six. The three other newspaper annual article contributions are: Connecticut Day 20

articles, Hartford Courant 19 articles, and New Haven Register 11 articles. The mean community

contribution to these newspapers regarding the opioid epidemic was 6.92 commentaries/month.

Regarding the number of meaning units observed (data points), a total of 203 were

observed with a mean of 2.45 meaning units per article (Table 1). From these 203 meaning units,

a total of 35 recurrent subthemes were derived which were subsequently grouped into eight

overarching themes.

Themes

The themes for purposes of discussion have been organized and labeled in descending

order of frequency. (See Table 2.) The most common theme was *Local community and social*

involvement as a tool for addressing the opioid epidemic, (Theme 1). This theme was present in

51 meaning units and comprised 25.12% (51/203) of the total opinion/commentary observed in

these newspapers. In comparison the theme of *The effectiveness of addressing the opioid epidemic as a product of the strength of an organization's funds and budget* (Theme 7) and *Promotion of opioid epidemic involvement as a tool for driving political support* (Theme 8) were the least mentioned themes with a total of 16 meaning units each or 7.88% (16/203) of the total opinion/commentary observed. The remaining themes are as follows: *Impact of Government response and competency on effective control of the opioid epidemic* (Theme 2) total of 33 meaning units 16.26% (33/203), *Factors of opioid management* (Theme 3) total of 24 meaning units 11.82% (24/203), *Physicians play a crucial role in the historical context of the opioid crisis* (Theme 4) total of 23 meaning units 11.33% (23/203), *Law enforcement's crucial role in addressing the ongoing opioid epidemic* (Theme 5) total of 22 meaning units 10.83% (22/203) and *Role of private corporations in the opioid epidemic* (Theme 6) total of 18 meaning units 8.87% (18/203).

Evaluation of the themes suggests that the Connecticut public is most concerned and engaged with issues that involve community and social engagement. In comparison the three themes least likely to be discussed (Themes 6- 8) focused predominately on policies of pharmaceuticals and insurance companies as well as on government budgets and underlying agendas such as upcoming elections. This suggests that the Connecticut public mindset is largely proactive and geared towards solutions at the level that it can affect.

Subthemes

There were a total of 35 recurrent subthemes (Figure 2). The subthemes will be introduced in order of frequency observed within their themes. Theme 1 had a total of eight separate subthemes: 1) Structural and support systems to combat the opioid epidemic (23 meaning units), 2) Younger individuals are being exposed to/using more prescription drugs (nine

meaning units), 3) Importance of community leaders (eight meaning units), 4) Opioids have far reaching influence that extend beyond SES and race (four meaning units), 5) Personal experience that drives advocacy (three meaning units), 6) Wide reaching social impact of the opioid epidemic (two meaning units), 7) Use of religious communities as a support system (one meaning unit), and 8) Public's knowledge of opioid epidemic is still lagging (one meaning unit). The subtheme *Structural and support systems to combat the opioid epidemic* appeared the most of all subthemes in 2016. Examples of meaning units which demonstrated this subtheme include: "The problem needs the public and there is already a good network of citizens in place working on this issue in churches, community groups, and schools" (Hartford Courant, 9/18/2016) and "The goal of my suggested addiction treatment is to assure a continuum of care and prevent people from falling through the cracks" (Connecticut Day, 2/7/2016). While the majority of subthemes are apparent, some such as the subtheme *Personal experience that drives advocacy* may require direct examples from the text. "That is why there is such an important role for groups such as "Community Speaks Out," which is emphasizing that families that have been touched by the tragedy of opioid addiction join the effort to address it." (Connecticut Day, 5/2/2016)

Theme 2 had a total of five separate subthemes: 1) Requirement of new/improved leadership to address the opioid crisis (ten meaning units), 2) Lack of government action (eight meaning units), 3) Inconsistency with drug policies (seven meaning units), 4) Modeling of policies after those with proven results (five meaning units), and 5) General support of policies aimed at addressing the opioid epidemic (three meaning units). The subthemes in Theme 2 are a contrast to the subthemes in Theme 1 in that they predominately critique the government and calls for improvement. The majority of the tone throughout the subthemes of Theme 2 were

certainly more negative and pressed for change in the government's approach. Of these subthemes, *Inconsistency with drug policies* may require an example for clarification. "The timing is wrong, and so is the message – messages, actually. As fatal encounters with opioids such as heroin resume their climb in Connecticut, one lawmaker is pushing legalization of marijuana, one of heroin's gateway drug" (Republican-American, 2/22/2016). The subtheme, *Modeling of policies after those with proven results* in contrast to placing blame as demonstrated in the previous subtheme, called for working with other states and organizations to more efficiently create a solution to the opioid epidemic: "We are eager to find out what nearby states can advise; we do not have to reinvent the wheel" (Hartford Courant 1/31/2016).

Theme 3 had a total of six separate subthemes: 1) Use of pharmacotherapy to combat the opioid crisis (nine meaning units), 2) Policy to reduce amount of opioids entering community (six meaning units), 3) Structural issue to surveillance of the opioid epidemic (four meaning units), 4) Increasing the cost of opioids (two meaning units), 5) Increasing the amount of opioids disposed (two meaning units), and 6) The evolving pharmacology of the opioid epidemic (one meaning unit). The subtheme of Theme 3 are similar to those found in Theme 1 in that they discuss current solutions as well as possible future solutions. However, the primary difference between these two groups is that the subthemes of Theme 3 discussed methods of managing the opioid crisis but did not use social and community structure as the foundation to addressing the problem as was done in the subthemes of Theme 1.

Theme 4 had a total of three separate subthemes: 1) Training to appropriately treat pain (13 meaning units), 2) Doctors are wrongfully villainized (seven meaning units), and 3) Doctors as part of the opioid epidemic problem (three meaning units). The subthemes of Theme 4 demonstrate differing public opinions concerning physicians and the roles they had and currently

have in the opioid epidemic. This was a refreshing observation as it demonstrated the public's

knowledge that the opioid epidemic was not simply due to one offending party but was rather

multifactorial in its etiology.

Theme 5 also had a total of three separate subthemes: 1) Training to use pharmacotherapy

(nine meaning units), 2) Persecution of the illegal distribution of opioids (eight meaning units),

and 3) Decriminalization of opioid overdose (five meaning units). The subthemes for Theme 5

largely clarified the public's position on the role of law enforcement. The general consensus was

that individuals with an opioid addiction/abuse problem should be treated as victims as opposed

to being persecuted. Instead the public believes that law enforcement agencies should focus on

the true perpetrators of the opioid problem such as drug dealers and including those who work

the streets as well as those in the medical profession who have renounced their Hippocratic Oath

in favor of running pill mills.

Theme 6 had a total of five separate subthemes: 1) Pharmaceuticals are part of the opioid

epidemic problem (five meaning units), 2) Ethical responsibility of pharmaceuticals to invest in

solutions (four meaning units), 3) Insurance as a barrier to adequate addiction treatment (three

meaning units), 4) Ethical responsibility of insurance companies to cover comprehensive

services (three meaning units), and 5) Legal prosecution of pharmaceuticals for their

involvement (three meaning units). The subthemes of Theme 6 took a largely negative tone

towards insurance and pharmaceutical companies. Overall, members of the public generally view

these corporations as having propagated the opioid epidemic. Furthermore the public believes

that these corporations are not doing enough to right the wrong that has been committed. An

example of this sentiment includes this meaning unit from the subtheme *Pharmaceuticals are

part of the opioid epidemic problem*: "Meanwhile, the pharmaceutical industry is booming and

causing insurance rates to rise exorbitantly while children are dying from opioid use and abuse" (New Haven Register, 6/27/2016).

Theme 7 also had a total of three separate subthemes: 1) Lack of funds (eight meaning units), 2) Differing opinions on best allocation of funds (six meaning units), and 3) Taxation of drugs to increase funding (two meaning units). Of the subthemes that had the most potential for overlap, Theme 2 and Theme 7 required considerable reevaluation during the inductive category development process of this study. This was due to both Themes covering the topic of policy. However, ultimately Theme 7 became its own Theme as opposed to a subtheme in Theme 2 as the newspaper opinions/commentaries focused specifically on funding. In contrast, Theme 2 comments were focused on government competency and critique of government performance.

Theme 8 had two separate subthemes: 1) Promoting a politician's involvement in the opioid epidemic to get people to vote for that candidate (13 meaning units) and 2) Promoting an organization's role in combating the opioid epidemic (three meaning units). During the inductive category development process of this study, Theme 8 was the first theme to emerge since commentary of the subject was so clearly directed towards the promotion of a given individual or organization. The subtheme *Promoting a politician's involvement in the opioid epidemic to get people to vote for that candidate* was tied as the second most frequent subtheme. This was undoubtedly due in large part to 2016 being an election year. This meaning unit demonstrates the general prose observed in this subtheme: "When folks across the 20th District became concerned about opioids, it was Paul who stepped into action and helped host forums across the district… The people of the 20th would be well served if Paul is re-elected and I hope you will join me in voting for him on Nov. 8." (Connecticut Day, 10/19/2016)

Discussion

<u>General</u>

   This study investigated public opinion in Connecticut regarding the opioid epidemic. When the number of opinion articles printed by each newspaper was examined, it was surprising to discover how much the newspapers varied in the attention paid to the issue across the five papers. The Republican-American had the fewest of these articles; only six letters or editorials were printed in 2016 compared to the 27 printed by the Connecticut Post. This was unexpected as the Republican-American provides local news to the Greater Waterbury, Litchfield County, and Naugatuck Valley areas, including the City of Waterbury which had the highest number of drug overdose deaths in 2015. A further evaluation of this finding demonstrated that the majority of articles that focused on the opioid epidemic in the Republican-American archives were found in the Local News section. Interpretation of this lower public commentary on the opioid epidemic includes the possibility that the Republican-American prioritizes the factual presentation of its articles as opposed to publishing commentaries. The Republican-American may also have a screening process for these types of articles that may have resulted in the lower number of commentary articles on the opioid epidemic. As a result due to the small sample size it is reasonable to deduce that the public opinions drawn from the articles obtained from the Republican-American are not indicative of Waterbury and its surrounding neighbors.

   The Connecticut Post appeared to have the most opinion-based articles. This was in part due to the format the newspaper had developed to present many of these articles. The Connecticut Post has a "Thumbs Up/Thumbs Down" commentary section that allows the public to voice support or disagreement regarding various topics. This format may have contributed to the higher number of public opinions seen in the Connecticut Post regarding the opioid epidemic. Therefore, unlike the Republican-American, the Connecticut Post may more thoroughly

document the opinions and attitudes of residents within the area that it serves. However, it should be noted that the public opinion essays in the Connecticut Post also tended to be shorter with an average of 2.00 meaning units/article as opposed to the average 2.45 meaning units/article seen across all five newspapers.

Themes/Subthemes

The range of opinions by the public covered a wide array of subjects related to the opioid epidemic with both positive and negative attitudes represented. Several themes and subthemes were uncovered.

The notion that local community and social involvement was necessary to address the opioid epidemic was the most common recurring theme expressed in these papers. Subthemes included the need for structural and support systems to combat the problem especially bringing to bear existing resources such as schools and community centers. The importance of community leaders' roles in organizing and supporting action at the local level was frequently noted. Furthermore, many opinion pieces published in the newspapers documented the impact of losing friends or family members and the strength of these affected individuals as advocates promoting actions to prevent opioid addiction and to increase access to effectively treat those who had become addicted to prescription painkillers and heroin. While the loss of a love one is tragic, these losses were presented as motivating people to discover solutions at the community and policy levels.

Another recurring theme included the crucial role of law enforcement in addressing the ongoing opioid epidemic. The overall consensus was that individuals with an opioid addiction or misuse problem should be treated as victims while those involved in illegal distribution should be persecuted. This was interpreted as evidence that the Connecticut public was able to

differentiate a medical condition from a criminal activity. The public voice was uniformly in favor of providing Narcan training to law enforcement officers and first responders in order to treat opioid overdose emergencies.

However, while the public opinion overall was largely proactive and positive across the major themes, there were several negative attitudes that directed blame at various sources. In many instances, authors of these opinion pieces criticized the government response and competency in effectively controlling the opioid epidemic. People expressed displeasure or despair at the government's inability to adequately address the ongoing health crisis. This included disparaging statements about the lack of government action and calls for new leadership to address the opioid crisis. Many letters called for the use of policies and practices with proven efficacy, such as those used in neighboring states. This idea of utilizing proven practices and policies demonstrated that the public is in search of proactive solutions.

Another major theme identified was promotion of opioid epidemic involvement as a tool for driving political support. While this theme was unexpected due to the absence of this subject appearing in background research, in retrospect as 2016 was an election year for the Senate and House of Representatives, it is understandable as to why the topic of opioids was mentioned in this manner. This Theme thereby demonstrated that the opioid epidemic was thought of as a key issue in driving elections in the state of Connecticut.

Limitations

The use of the concept trustworthiness differs between the qualitative and the quantitative research paradigms. In quantitative research concepts of validity, reliability, and generalizability are analogous to those of credibility, dependability, and transferability seen in qualitative research.[22]

Credibility in qualitative research deals with the focus of the research and how well the data and process of the analysis addresses the intended focus.[22] Criteria that increase achieving credibility is the selection of the most suitable meaning unit. If the meaning unit was too broad, for example, several paragraphs, it would be difficult to manage as there would likely be several meanings. In the case of this study, several opinions could be expressed within a single paragraph. In this study the meaning unit was kept as concise as possible in order to maintain credibility. In addition, credibility involves how well the categories or themes capture the data. This study was able to adequately meet this criteria in that no data was excluded inadvertently or intentionally. One approach that could improve the credibility of the results would be agreement among other researchers regarding the themes. Without corroboration and replication, the credibility of the themes identified in this study remains interpretive. However, by using the systematic approaches of identifying and analyzing judgment opinions as described by Kim and Hovy[24] as well as the inductive category development recommended by Mayring[23] the investigator is confident in the credibility of the findings.

Dependability in qualitative research deals with the risk of inconsistency when extensive amounts of data are collected and analyzed over time.[22] Dependability also is concerned with the researcher's decisions made during the analysis process. Due to the systematic approach to the analysis and the complete documentation of this analytical process, this study fits the criteria of dependability.

Transferability in qualitative research is the extent to which findings can be generalized to other settings or groups.[22] Increasing transferability can be reached through clearly defining the context, data selection and collection, and a standardized protocol for analysis of the data. Although this study sought to thoroughly address each of these components, it is possible that

this investigation of public opinions of Connecticut residents regarding the opioid epidemic may not transfer to other states and points in time. While the opioid epidemic is a problem at the national level, it is reasonable to expect that residents of other states will have varying opinions regarding the same issue. Depending upon the extent of opioid misuse and addiction in their communities, differences in beliefs about the causes and consequences of opioid misuse as well as differences in social and political orientations can be expected.

Recommendations for future research will largely depend on how trustworthy this study is ultimately deemed. In the context of credibility and dependability this study was able to maintain as high a level as possible. However transferability to the state and national level are questionable as the opioid epidemic is different in each setting due to a multitude of factors such as public knowledge, preexisting infrastructure, resources, and funding. In fact there may be issues of transferability of this study even at the local level due to the organization of editorial/opinion/commentary/letter articles by the newspaper companies. As discussed there were surprising differences in the number of these pieces produced based on the format and style in which they were written and categorized. Future research to evaluate public discourse at the local level may involve a different medium as opposed to newspapers. This could include the use of questionnaires or surveys at local health departments or community centers. Further recommendations for future research is to repeat this study in following years and to perhaps do so at a larger level. This can include incorporating all the major daily newspapers in the state of Connecticut. Doing this follow up study would also provide a continuing assessment of this ongoing public health problem to determine if this issue is being adequately addressed and if not which areas are still proving to be a challenge.

Conclusion

As the opioid epidemic continues to rise in Connecticut as well as nationally, there is an increasing urgency to address and control this public health problem. This study explored public opinions of residents of Connecticut regarding the ongoing opioid epidemic as expressed in the largest newspapers in the state. Numerous and varied themes emerged through study of this public forum. A key finding was the public's support for actively addressing this health issue at the community level. Many community members expressed concern about government performance in managing the problem, as well as belief that the most effective route to affecting change was taking action within their own communities.

This study will hopefully inform development of future statewide programs. By demonstrating the public concern and attitudes towards the opioid epidemic, state agencies can strategically allocate resources that will be supported by the public. As noted, there is considerable support among members of the public to focus its energy at the community level to address the opioid epidemic.

This study is also important to health care practitioners. Health care providers have widely been considered to be a partner along with pharmaceutical companies in contributing to the development of this public health problem. However, public discourse in Connecticut demonstrates that solutions must be placed at a higher priority. Given this attitude health care practitioners should feel confident that they can engage the community in a positive manner as opposed to fearing that they will be consistently cast as the villain.

Overall this study provides a unique approach to examining the opioid public health crisis in the state of Connecticut. It has added to the literature by demonstrating areas that that can be

of utility to public health officials as well as clinical providers. It is the hope of the author that this study will contribute to the ongoing campaign to address the opioid epidemic.

Tables and Figures

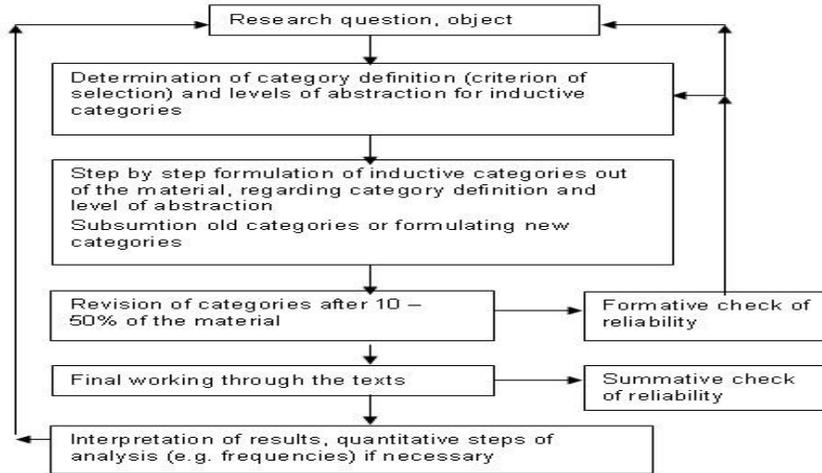Figure 1: Step model of inductive category development: Mayring, 2000.[20]

Table 1: Articles and Meaning units per newspaper

	Number of meaning units					
	Hartford Courant	**New Haven Register**	**Republican-American**	**CT Post**	**CT Day**	**All**
Total Articles	49	30	13	54	57	**203**
Meaning units/Articles	2.58	2.73	2.17	2	2.85	**2.45**

Table 2: Frequency of Themes

	Themes	Frequency	Percent of Total
1	**Local community and social involvement as a tool of addressing the opioid epidemic.**	51	25.12%
2	**Impact of Government response and competency on effective control of the opioid epidemic.**	33	16.26%
3	**Factors of opioid management.**	24	11.82%
4	**Physicians play a crucial role in the historical context of the opioid crisis.**	23	11.33%
5	**Law enforcement's crucial role in addressing the ongoing opioid epidemic.**	22	10.83%
6	**Role of private corporations in the opioid epidemic.**	18	8.87%
7	**The effectivness of addressing the opioid epidemic as a product of the strength of an organization's funds and budget.**	16	7.88%
8	**Promotion of opioid epidemic involvement as a tool for driving political support.**	16	7.88%

Figure 2: Subthemes and Frequency of Appearance

Themes		Subthemes		Themes		Subthemes		Themes		Subthemes	
1	Local community and social involvement as a tool of addressing the opioid epidemic.	1	Structural and support systems to combat the opioid epidemic. (23)	3	Factors of opioid management.	1	Use of pharmacotherapy to combat the opioid crisis. (9)	6	Role of private corporations in the opioid epidemic.	1	Pharmaceuticals are part of opioid epidemic problem. (5)
		2	Younger individuals are being exposed to/using more prescription drugs. (9)			2	Policy to reduce amount of opioids entering community. (6)			2	Ethical responsibility of pharmaceuticals to invest in solutions. (4)
		3	Importance of community leaders. (8)			3	Structural issue to surveillance of the opioid epidemic. (4)			3	Insurance as a barrier to adequate addiction treatment. (3)
		4	Opioids have far reaching influence that extend beyond SES and race. (4)			4	Increasing the cost of opioids. (2)			4	Ethical responsibility of insurance companies to cover comprehensive services. (3)
		5	Personal experience that drives advocacy. (3)			5	Increasing the amount of opioids disposed. (2)			5	Legal prosecution of pharmaceuticals for their involvement. (3)
		6	Wide reaching social impact of the opioid epidemic. (2)			6	The evolving pharmacology of the opioid epidemic. (1)	7	The effectiveness of addressing the opioid epidemic as a product of the strength of an organization's funds and budget.	1	Lack of funds. (8)
		7	Use of religious communities as a support system. (1)	4	Physicians play a crucial role in the historical context of the opioid crisis.	1	Training to appropriately treat pain. (13)			2	Differing opinions on best allocation of funds. (6)
		8	Public's knowledge of opioid epidemic is still lagging. (1)			2	Doctors are wrongly villainized. (7)			3	Taxation of drugs to increase funding. (2)
2	Impact of Government response and competency on effective control of the opioid epidemic.	1	Requirement of new/improved leadership to address the opioid crisis. (10)			3	Doctors as part of the opioid epidemic problem. (3)	8	Promotion of opioid epidemic involvement as a tool for driving political support.	1	Promoting a politician's involvement in the opioid epidemic to get people to vote for that candidate. (13)
		2	Lack of government action. (8)	5	Law enforcement's crucial role in addressing the ongoing opioid epidemic.	1	Training to use pharmacotherapy. (9)			2	Promoting an organization's role in combating the opioid crisis. (3)
		3	Inconsistency with drug policies. (7)			2	Persecution of the illegal distribution of opioids. (8)				
		4	Modeling of policies after those with proven results. (5)			3	Decriminalization of opioid overdose. (5)				
		5	General support of policies aimed at addressing the opioid epidemic. (3)								

References

1. A Brief History of Opioids. The Atlantic. http://www.theatlantic.com/sponsored/purdue-health/a-brief-history-of-opioids/184/. Accessed February 13, 2017.

2. Brownstein, MJ. A brief history of opiates, opioid peptides, and opioid receptors. Proc Natl Acad Sci USA June, 1993; 90(12): 5391-5393.

3. Abuse NID. Overdose Death Rates. NIDA. https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates. Published January 6, 2017. Accessed April 28, 2017.

4. All Injuries. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/fastats/injury.htm. Published March 17, 2017. Accessed April 28, 2017.

5. Rudd RA, Seth P. Morbidity and Mortality Weekly Report (MMWR). Centers for Disease Control and Prevention. https://www.cdc.gov/mmwr/volumes/65/wr/mm655051e1.htm. Published December 29, 2016. Accessed March 18, 2017.

6. Opioid Overdose. Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/data/statedeaths.html. Published December 16, 2016. Accessed February 13, 2017.

7. DEA National Drug Threat Assessment Summary 2014. Public Intelligence. https://publicintelligence.net/dea-drug-threats-2014/. Published November 2014. Accessed April 28, 2017.

8. Hansen RN, Oster G, Edelsberg J. Economic Costs of Nonmedical Use of Prescription Opioids. *The Clinical Journal of Pain*. 2011;27(3):194-202. doi:10.1097/ajp.0b013e3181ff04ca.

9. Sauter MB, Stebbins S, Comen E. States With the Fastest (and Slowest) Growing Economies. 247wallst.com. http://247wallst.com/special-report/2016/06/16/states-with-the-fastest-and-slowest-growing-economies-2/4/. Published June 17, 2016. Accessed February 18, 2017.

10. Sauter MB, Comen E, Stebbins S, Frohlich TC. The Best and Worst Run States in America: A Survey of All 50. 247wallst.com. http://247wallst.com/special-report/2016/12/06/the-best-and-worst-run-states-in-america-2/9/. Published December 12, 2016. Accessed February 18, 2017.

11. Tran A. What can be done to curb the drug overdose deaths. The Opioid Epidemic. http://overdose.trendct.org/story/what. Accessed February 11, 2017.

12. Scinto R. CT Heroin Epidemic: Interactive Map of Deaths by Town. Darien, CT Patch. https://patch.com/connecticut/darien/ct-heroin-epidemic-interactive-map-deaths-town-0. Published May 1, 2016. Accessed February 11, 2017.

13. Connecticut Income Data. DECD: Connecticut Income Information. http://www.ct.gov/ecd/cwp/view.asp?a=1106&q=250652. Accessed April 28, 2017.

14. Tran A. Where drug abusers overdose in Connecticut. The Opioid Epidemic. http://overdose.trendct.org/story/where. Accessed February 11, 2017

15. Kara J. Who is dying in Connecticut's opioid overdose crisis? The Opioid Epidemic. http://overdose.trendct.org/story/who. Accessed February 17, 2017

16. Osborn SR, Yu J, Williams B. Changes in Provider Prescribing Patterns After Implementation of an Emergency Department Prescription Opioid Policy. *The Journal of Emergency Medicine*. 2016;52(4):538-546. doi:10.1016/j.jemermed.2016.07.120.

17. Prescription Opioid Overdose Data. Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/data/overdose.html. Published December 16, 2016. Accessed February 18, 2017.

18. Kaye AD, Jones MR, Kaye AM. Prescription opioid abuse in chronic pain: an updated review of opioid abuse predictors and strategies to curb opioid abuse: part 1. *Pain Physician Journal*. 2017;20: S93-S109. ISSN: 1533-3159.

19. Warner M, Trinidad J, Bastian B. *Drugs most frequently involved in drug overdose deaths: United States, 2010-2014*. Center for Disease and Control; 2016. https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_10.pdf. Accessed March 21, 2017.

20. Kaye AD, Jones MR, Kaye AM. Prescription opioid abuse in chronic pain: an updated review of opioid abuse predictors and strategies to curb opioid abuse: part 2. *Pain Physician Journal*. 2017;20: S111-S133. ISSN: 1533-3159.

21. Top 10 Connecticut Daily Newspapers by Circulation. Agility PR Solutions. https://www.agilitypr.com/resources/top-media-outlets/top-10-connecticut-daily-newspapers-by-circulation/. Published January 5, 2016. Accessed February 11, 2017.

22. Graneheim U, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*. 2004;24(2):105-112. doi:10.1016/j.nedt.2003.10.001.

23. Kohlbacher F. The use of qualitative content analysis in case study research. *Forum: Qualitative Social Research*. 2006;7(1). ISSN: 1438-5627

24. Lee J-H, Kim Y-G. A stage model of organizational knowledge management: a latent content analysis. *Expert Systems with Applications*. 2001;20(4):299-311. doi:10.1016/s0957-4174(01)00015-x.